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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,681	02/18/2004	Yue Jun Jiang	RMWR.P012	5243

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EXAMINER

LA, NICHOLAS T

ART UNIT PAPER NUMBER

2617

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/782,681	Applicant(s) JIANG, YUE JUN	
	Examiner Nicholas T. La	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1) Claims 17, 30-31, 38-39 are rejected under 35 U.S.C. 102(e) as being unpatentable by Anvekar et al. (US Pub. No. 2002/0197991).

Regarding **claim 17**, Anvekar et al. teaches a system comprising:

means for wireless communications (Figure 5, paragraph [0040]);

means for associating a single subscriber identity with the means for wireless communications (Figure 4, paragraph [0039]-[0049]); and

means for coupling calls among the means for wireless communications and a first public mobile network using a first telephone number and for coupling

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calls among the means for wireless communications and a second public network using a second telephone number (Figure 5, 6; paragraph [0053]-[0056]).

Regarding **claims 30, 39**, Anvekar et al. further teaches a method and corresponded instructions to perform for supporting multiple Mobile Subscriber Integrated Service Digital Network (MSISDN) numbers in a mobile device, comprising:

connecting calls between the mobile device and a first public mobile network using a first MSISDN that is associated with the first public mobile network, wherein the mobile device includes a Subscriber Identity Module (SIM) with an International Mobile Subscriber Identity (IMSI) (Figure 7A-7B; paragraph [0037]-[0038], i.e., connecting calls between the mobile device and a first public mobile network using a first MSISDN that is associated with the first public mobile network);

mapping the first MSISDN number to a second MSISDN number that is associated with a second public mobile network (Figure 7A-7B; paragraph [0055]); and

connecting calls between the client device and the second public mobile network using the second MSISDN via a coupling through the first public mobile network (paragraph [0051]).

Regarding **claim 31**, Anverka et al. further teaches a method, wherein the IMSI is associated with the first public mobile network (Figure 3, 7A, 7B).

Regarding **claim 38**, Anverka et al. and further teaches a system, wherein the mobile device includes at least one of cellular telephones, personal computers, portable computing devices, portable telephones, portable communication devices, subscriber devices or units, and personal digital assistants (Abstract, Figure 1, 5, element 180).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2) Claims 1-9, 16, 18-24, 29, 32-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anvekar et al. (US Pub. No. 2002/0197991) in view of submitted art Anius (WO 03/019969).

Regarding **claim 1**, Anvekar et al. teaches a communication system comprising:

a mobile device including a Subscriber Identity Module (SIM) and an International Mobile Subscriber Identity (IMSI) (Figure 3, paragraph [0038]);

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a first Mobile Subscriber Integrated Service Digital Network (MSISDN) number for use in a first public mobile network (Figure 7A-7B, paragraph [0056]);

a second MSISDN number for use in a second public mobile network (Figure 7A-7B, paragraph [0056]); and

at least a routing function coupled among components of the first public mobile network and the second public mobile network, wherein the routing function couples calls between the SIM and the first public mobile network using the first MSISDN, wherein the routing function couples calls between the SIM and the second public mobile network using the second MSISDN (Figure 5, 7A-7B, paragraph [0053]-[0056]).

However, Anvekar et al. does not teach a signal gateway. In an analogous art, Anius teaches a method of routing calls to a mobile telecommunications device capable of roaming across national boundaries. Anius further teaches a method of using a gateway for call routing (Figure 1, 2, 3; page 8, line 20 to 27, page 11, line 25 to 30, page 14, line 30 to page 15, line 3). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Anvekar et al. to include a gateway for routing calls such as taught by Anius in order to enhance effectiveness of call routing as well as minimizing the cost by reducing the redundant of transferring of information that being routed such that large part of the international community.

Regarding **claim 18**, Anvekar et al. further teaches a system comprising a wireless client device that includes one Subscriber Identity Module (SIM) having one assigned International Mobile Subscriber Identity (IMSI) (Figure 3, paragraph [0038]), and at least one routing function that supports use of two or more Mobile Subscriber Integrated Service Digital Network (MSISDN) numbers by the client device, wherein the routing function couples among at least one of first and second mobile switching centers, wherein the routing function couples calls between the client device and the first mobile switching center using a first MSISDN and couples calls between the client device and a second mobile switching center using a second MSISDN (Figure 5, paragraph [0053]-[0056]; RSPN).

However, Anvekar et al. does not teach a signal gateway. In an analogous art, Anius teaches a method of routing calls to a mobile telecommunications device capable of roaming across national boundaries. Anius further teaches a method of using a gateway for call routing (Figure 1, 2, 3; page 8, line 20 to 27, page 11, line 25 to 30, page 14, line 30 to page 15, line 3). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Anvekar et al. to include a gateway for routing calls such as taught by Anius in order to enhance effectiveness of call routing as well as minimizing the cost by reducing the redundant of transferring of information that being routed such that large part of the international community.

Regarding **claim 19**, Anvekar et al. further teaches a device comprising at least one routing function coupled among components of a first public mobile network and a second public mobile network, wherein the routing function couples calls between a mobile device and the first public mobile network using a first Mobile Subscriber Integrated Service Digital Network (MSISDN) number, wherein the routing function couples calls between the SIM and the second public mobile network using a second MSISDN, wherein the mobile device includes a single Subscriber Identity Module (SIM) and International Mobile Subscriber Identity (IMSI) (Figure 3, 5; paragraph [0038], [0053]-[0056]).

However, Anvekar et al. does not teach a signal gateway. In an analogous art, Anius teaches a method of routing calls to a mobile telecommunications device capable of roaming across national boundaries. Anius further teaches a method of using a gateway for call routing (Figure 1, 2, 3; page 8, line 20 to 27, page 11, line 25 to 30, page 14, line 30 to page 15, line 3). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Anvekar et al. to include a gateway for routing calls such as taught by Anius in order to enhance effectiveness of call routing as well as minimizing the cost by reducing the redundant of transferring of information that being routed such that large part of the international community.

Regarding **claims 2, 3, 4, 5, 20, 33**, Anvekar et al. and Anius further teaches a system, wherein at least one of the first MSISDN number and the

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second MSISDN number is permanently assigned to the SIM (Figure 7, 8; paragraph [0013], [0055]-[0058]; Anvekar et al. teaches a system wherein a permanent country/home Home Location Phone number, i.e., home location MSISDN is a permanent assigned number and local to the home location being used to point or route communication to a temporary assigned number for the phone, which is local to the visiting network, when it is roaming to a visiting network, i.e., current or visiting location MSISDN).

Regarding **claims 6, 21, 34**, Anvekar et al. and Anius further teaches a system, wherein components of the signal gateway map the first MSISDN number to the second MSISDN number (Anvekar et al., paragraph [0055]).

Regarding **claims 7, 22, 35**, Anverka et al. and Anius further teaches a system, wherein at least one component of the RSPN, i.e., signal gateway provides at least one of a home location register (HLR), a visited location register (VLR), a visited mobile switching center (VMSC), a gateway mobile switching center (GMSC), a short message service center (SMSC), and a service node in at least one of the first public mobile network and the second public mobile network (Figure 5, paragraph [0053]; Anverka et al. teaches countries in which roaming service encompassed by the inventive subject matter are to be supported have one or more RSPNs, in which home or visiting location area has a HLR, VLR, VMSC, and service node respectively, i.e., paragraph [0037]).

Regarding **claims 16, 29**, Anverka et al. and Anius and further teaches a system, wherein the mobile device includes at least one of cellular telephones, personal computers, portable computing devices, portable telephones, portable communication devices, subscriber devices or units, and personal digital assistants (Anvelar et al.; Abstract, Figure 1, 5, element 180).

Regarding **claim 32**, Anverka et al. and Anius further teaches a method, wherein connecting calls between the mobile device and the first public mobile network comprises coupling calls between the first public mobile network and the SIM via at least one signal gateway, wherein the signal gateway is coupled among components of the first public mobile network and the second public mobile network (Anvekar et al.; Figure 5, 7A-7B, paragraph [0056]).

Regarding **claims 8, 9, 23, 24, 36, 37**, Anverka et al. further teaches the invention and a billing method for roaming call charges, however, does not teach providing signal loop-back at the first mobile switching center. In an analogous art, Anius teaches a method and system for routing calls to a mobile telecommunication device. Anius further teaches a system wherein the signal gateway is coupled to at least one first mobile switching center of the first public mobile network and is coupled to provide signal loop-back at the first mobile switching center, wherein the signal gateway couples to at least one component of the second public mobile network via the first mobile switching center (Anius;

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Figure 1, 2, 3; page 8, line 20-26; page 10, line 29 to page 11, line 13; page 11, line 25 to 30; page 14, line 1 to 18; page 14, line 30 to page 15, line 3; page 18, line 15 to page 19, line 5; Anius teaches a loop-back system to provide information about the call through gateway signal for billing purpose).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Anverka et al. to include the system including looping back signal regarding the call respectively to the home and visiting location MSC through the gateway signal in order to achieve the purpose of correctly bill users with appropriate charges.

3) Claims 10-15, 25-28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anvekar et al. (US Pub. No. 2002/0197991) in view of Anius (WO 03/019969) and further in view of Allison et al. (US Pub. No. 2003/0129991).

Regarding **claims 10, 25**, Anverka et al. and Anius teaches a system wherein the first public mobile network includes first and second mobile switching centers, wherein the at least one signal gateway includes first and second signal gateways coupled among the first and second mobile switching centers (Anvekar et al. teaches a routing function, Figure 5, paragraph [0053]-[0054]; Anius teaches a gateway, Figure 1, 2, 3). However, Anverka et al. and Anius does not teach the system couplings via coupling that support Signaling System Number 7 (SS7) protocols. In an analogous art, Allison et al. teaches methods and

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systems for providing mobile location management services in a network routing node. Allison et al. further teaches a system wherein the mobility management routing node performs the signaling message routing functionality typically provided by a network routing node, such as a signaling system 7 (SS7) (see Abstract, paragraph [0012]). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to implement Anverka et al. invention by utilizing the coupling method via couplings that support by SS7 in order to fulfill the long-felt need for a cost effective, efficient solution to the location management problems of the conventional mobile communication networks.

Regarding **claims 11, 12**, Allison et al. further teaches a system, wherein the first signal gateway couples to the first mobile switching center using a common signal point code, the first signal gateway couples to the second mobile switching center using a first signal point code, the second signal gateway couples to the first mobile switching center using a second signal point code, and the second signal gateway couples to the second mobile switching center using the common signal point code (paragraph [0041]-[0042]; [0049]-[0052], in case first signal point code same as second point code same as common point code).

Regarding **claims 13, 27** Allison et al. further teaches a system wherein the second public mobile network includes second and third mobile switching centers, wherein the at least one signal gateway includes second and third signal

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gateways coupled among the second and third mobile switching centers via couplings that support Signaling System Number 7 (SS7) protocols (Figure 5, paragraph [041]-[0042], [0045], [0049]-[0052]). Allison et al. only teaches a system wherein the second public mobile network includes second and third mobile switching centers wherein the at least one signal gateway includes second and third signal gateways coupled among the second and third mobile switching centers via couplings that support Signaling System Number 7 (SS7) protocol. Allison et al. does not teach the fourth signal gateway, however, it would have been obvious to one skill in the art at the time of the invention was made to modify Anvekar et al., Anius, and Allison et al. to include a fourth mobile switching center in order to enhance the quality of service or providing better switching service in switching and transferring calls between nodes in the case of the second public mobile network is considerably larger than the public mobile network 110 as depicted by Allison in Figure 5.

Regarding **claims 14, 15**, Allison et al. further teaches a system, wherein the third signal gateway couples to the third mobile switching center using a common signal point code, the third signal gateway couples to the fourth mobile switching center using a first signal point code, the fourth signal gateway couples to the third mobile switching center using a second signal point code, and the fourth signal gateway couples to the fourth mobile switching center using the common signal point code (paragraph [0041]-[0042]; [0049]-[0052], in case first signal point code same as second point code same as common point code).

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Regarding **claims 26, 28**, Anverka et al. further teaches a device further comprising cross-connections between the first and second signal gateways and the first and second mobile switching centers (paragraph [0036], [0053]; cross-connections, i.e., interconnections).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas T. La whose telephone number is (571)-272-8075. The examiner can normally be reached on Mon-Fri 8:30-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "Nicholas La", with a long horizontal line extending to the right.

Nicholas La
05/17/2006

A handwritten signature in black ink, appearing to read "Nick Corsaro", written in a cursive style.

NICK CORSARO
PRIMARY EXAMINER